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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,590	04/03/2002	Zhi Xian Chen	2577-124A	1775

6449 7590 03/02/2007  
ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
1425 K STREET, N.W.  
SUITE 800  
WASHINGTON, DC 20005

EXAMINER
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KUBELIK, ANNE R

ART UNIT	PAPER NUMBER
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1638

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/02/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/02/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

**Office Action Summary**

Application No.

10/009,590

Applicant(s)

CHEN ET AL.

Examiner

Anne R. Kubelik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 17-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 23-30 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 20 is/are rejected.
- 7) ☒ Claim(s) 17, 18, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-14 and 16-30 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The objection to claim 17 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim is withdrawn in light of Applicant's amendment of the claim.
4. The rejection of claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Strickland (WO 97/12512) is withdrawn in light of Applicant's amendment of the claim.
5. The rejection of claims 1-14 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armstrong et al (US 2004/0087030, filed December 1998) in view of Strickland (WO 97/12512) is withdrawn in light of the Declaration of Dr. Zhang.

### ***Claim Rejections - 35 USC § 103***

6. Claims 1-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rangan et al (1999, US Patent 5,859,321, filed May 1995) in view of Strickland (WO 97/12512).

The claims are drawn to a method of producing a transgenic cotton plant comprising exposing petiole explants to Agrobacterium comprising a DNA encoding a selectable marker and an exogenous protein, culturing the explants to induce callus formation, selecting transformed callus, culturing the selected callus in suspension culture to induce embryoid formation, and regenerating the embryoid into a plant.

Rangan et al disclose transformation of cotton plant segments, which would include petioles, with *Agrobacterium tumefaciens* harboring a vector comprising a selectable marker gene, culture in the plant segments on medium supplemented with the auxin NAA to select transformants (column 18, line 50, to column 26, line 2), culturing the resultant callus on MS medium with NAA. Rangan et al also teaches cotton transformation with constructs comprising a selectable markers and an exogenous gene, including *aroA* (column 16, line 54, to column 17, line 17) and a Bt gene (column 17, line 54, to column 25, line 49). Rangan et al also teach growing callus in suspension culture in medium containing NAA to produce somatic embryos and and regenerating the embryos into plants that are grown in the field (column 12, line 54, to column 13, line 35). Rangan et al also teach use of 500 mg/l casein hydrolysate and 1.2 g/l  $\text{KNO}_3$  in the embryoid regeneration media (column 12, lines 1-10); casein hydrolysate is a nitrogen source containing both asparagine and glutamine. Rangan et al also teach use of 20-30 g/l glucose as the sole carbon source (column 8, lines 24-32; column 7, lines 19-23).

Rangan et al do not disclose producing a transgenic cotton plant comprising exposing petiole explants to *Agrobacterium* comprising a DNA encoding a selectable marker and an exogenous protein, culturing the explants to induce callus formation, selecting transformed callus, culturing the selected callus in suspension culture for 7-12 days to induce embryoid formation, and regenerating the embryoid into a plant.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the cotton transformation method taught by Rangan et al, to transform the cotton segments with a construct comprising both an exogenous gene and a selectable marker and to culture the callus and regenerate it into plants. One of ordinary skill in the art would have

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been motivated to do so because plants are the economically useful commodity. Particularly, plants comprising both herbicide resistance and insect resistance would be desirable, given the use of herbicides in agricultural practice and the infestation of plants with insect larvae.

7. Claims 17-19 and 21-30 are free of the prior art.
8. Claims 17-18 and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. Claims 19 and 23-30 are allowed.

### *Conclusion*

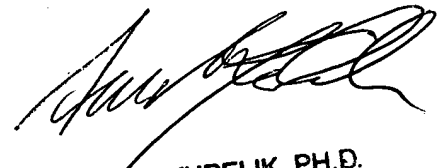
10. No claim allowed.
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.  
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.  
The central fax number for official correspondence is (571) 273-8300.  
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.  
Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also

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enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Anne Kubelik, Ph.D.  
February 16, 2007



ANNE KUBELIK, PH.D.  
PRIMARY EXAMINER